

## Disorders and therapies

Last time we talked about mood disorders and anxiety disorders. We are now moving to another class of disorders.

### Dissociative disorders

Dissociation is a process by which a period in a person's life and identity becomes separated from what others perceived as that person's life, and the person is not aware of the dissociation. Dissociation can last for minutes, weeks, months or years. There are two types of dissociations: least extreme to more extreme.

#### Dissociative amnesia

It's a sudden memory loss. It's different from the forms of amnesia we talked about before because dissociative amnesia does not involve any brain damage.

#### Dissociative fugue

it involves some amnesia plus a loss of identity. Sometimes in the media, there are reports about people who had disappeared, but who then reappear somewhere very different, and live entirely different lifestyles, have a different name, and don't have recollections of their previous life.

#### Dissociative identity disorder

This is the most extreme form of dissociative disorder and most controversial. It's known in popular culture as multiple personality disorder. It happens when two or more personalities are manifest in a single individual. Those personalities might be for instance Sam the grown up, vs. Jason the 6 years old. This is a very rare disorder, and it's controversial. It's unclear what this disorder is really about. Are people inventing those different personalities? Why would this disorder emerge? There aren't a lot of comprehensive answers, but there is some evidence that this disorder is real.

**Video clip:** Tony has dissociative identity disorder. He says that there are days where he just loses himself. He has 53 personalities, of which Richard (he cousin who died), Tony the impostor, Didi who remembers everything (he has 3 Didis). He believes that he is sharing his body with other people, and he does not know or have control of who is going to take over his body. Some of his personalities don't know that he is married. The disorder began in childhood. It is triggered by a need to escape from sexual abuse or other trauma. The selves aren't aware of what the other selves do. Once, one of Tony's selves went to a wedding, but his other selves don't remember the wedding. He has to ask people if they saw him at the wedding because he doesn't recall having been to the wedding.

This is an intriguing disorder. Therapy involves getting the various personalities to know each other and to integrate into one personality. But there is a lot that is not known about this disorder. Where does this disorder come from?

One view is that the disorder is an extreme reaction to a history of trauma, an extreme coping mechanism. When people go through a traumatic event, they might attempt to remove themselves from the traumatic event as a way to cope. That's when different personalities emerge to cope with different things. The disorder is hard to make sense of. There are differences in the personalities that are difficult to fake: for example, one personality might have allergies to something and show allergic reactions, but the other personalities won't. This is evidence that the disorder might be real.

Another interpretation is the **culturally conditioned theory**: the idea is that therapists who have beliefs about dissociative personality disorder tend to probe about child abuse, and seek confirmatory evidence for their hypotheses. So just the probing might make the personalities emerge. The therapist might not be doing it intentionally; but therapists are human too and are subject to errors. There is some evidence for this view: there was a big increase in the diagnosis of dissociative identity disorder after the movie *Sybil* (which was about a woman who had the disorder) came out. Also people with this disorder are very suggestible in other domains: 25% report having been abused by satanic cults, which tends not to be true. Additionally most therapists in the world do not see this disorder, while some therapists see it a lot, so maybe the therapist has something to do with it.

This is just showing that the knowledge of these disorders is not complete, and we are just operating with the best evidence available at the moment, until new evidence comes in.

## Schizophrenia

It is the most interesting and most devastating of the dissociative disorders. The movie *A Beautiful Mind* which is about the mathematician John Nash provides a good depiction of how schizophrenia can be devastating but also is something people can recover from. 1% of the population will have it at some point in their lives. It's so devastating that a large portion of people in mental health facilities are people who are schizophrenic. In everyday conversations, schizophrenia is what we refer to when we think of "crazy people". For men the onset is between 18-25, for women it's 26-45. The reason for these differences in onset is unclear. Prognosis from schizophrenia can range from complete recovery to gradual degradation. Some symptoms of schizophrenia:

1. **Delusions**: false beliefs held in the face of very contrary evidence. Common delusions include: persecution (e.g. "the CIA is after me"), grandiosity (e.g. "I

communicate with the president all the time”), delusions of being controlled (e.g. “aliens control my movements).

2. Delusions are often associated with but different from **hallucinations** which are false sensory perceptions (hearing or seeing things that aren't there). Most common type of hallucination: hearing voices. Hallucinations and delusions usually go together: having a belief that aliens control one's thoughts might go with hearing voices of aliens. Schizophrenics tend to have a belief that they can stop hearing the voices by doing things like keeping the mouth open, or humming. Evidence for hallucinations comes from brain studies and show that hallucinations involve the same brain mechanisms as when people engage in some form of inner speech. The difference between inner speech and hallucinations is that hallucinations are not experienced as coming from inside, they are experienced as coming from another source (aliens for instance).
3. **Disorganized speech** reflects the fact that thoughts are disorganized. Everything is coming out without the person having the ability to suppress thoughts that are irrelevant to the current situation. **Paralogic**: it's when it seems like the person is saying something logic, but when you listen more carefully, you realize that it doesn't make sense
4. **Disorganized behavior**: behavior that is not adapted to the current situation. Examples: wearing a heavy winter coat in summer, laughing at a funeral. **Catatonic behavior**: loss of reaction to situations.
5. **Negative symptoms**: reduction or loss of feelings, behavior and drives. Examples: flat affect, loss of basic interests such as cleaning oneself, and eating.

Someone does not need to show all of those symptoms to be diagnosed with schizophrenia. You only need to show two symptoms to be diagnosed, which means that there can be a lot variety in how people are schizophrenic.

**Video Clip**: Etta has schizophrenia. She believes that someone (eagles) are after her and checking how she mails letters. Then her speech becomes disorganized and difficult to follow. She mentioned that she spends a lot of time corresponding with Jesus.

Etta shows hallucinations (messages from Jesus), disorganized speech and paralogic. She isn't showing negative symptoms, she is interactive, amiable, responsive, but her speech does not make sense.

Schizophrenia leads to a decline in one's ability to manage him or herself in everyday life. It varies: some are able to live normally but just have to be careful about certain things; others have to be institutionalized because they risk hurting themselves or others.

Because only two symptoms are necessary for a diagnosis, there are subtypes of schizophrenia:

- **Paranoid schizophrenia:** for people who only show hallucinations and delusions
- **Catatonic schizophrenia:** for people who show the loss of movements
- **Disorganized schizophrenia:** it's what Etta shows, the lack of logical thinking

Because schizophrenia is such a profound illness with such a dramatic effect, researchers have been interested in its causes. One of the strongest evidence is that it's biologically based. The likelihood of someone having schizophrenia increases to the extent that he or she is biologically related to someone who has it. In the general population, the prevalence is 1%; for someone who has a schizophrenic parent, it jumps to 40%; for someone who has an identical twin who is schizophrenic, it jumps to 50%. Note that the highest risk posed by a biological predisposition is 50%, which suggests that many other factors might be contributing as well.

A second factor is brain chemistry. There seems to be an association of neurotransmitters that are related to schizophrenia: having too much dopamine in some parts of the brain while having too little in the other part is associated with schizophrenia.

A third factor is brain structure: ventricles tend to be enlarged among schizophrenics, and to have extra fluid compared to people who are not schizophrenic. There also appears to be a decrease in neural mass in the frontal area of the brain, which is the area for planning and strategy, in schizophrenics. It's unclear whether those are causes of schizophrenia or consequences.

There is some evidence that birth stressors (being deprived of oxygen at birth, viral infection at birth) are associated with schizophrenia.

Finally the family environment plays an important role: schizophrenia is more likely in families where the communication is broken and where there is a lot of criticism. Last time we talked about the diathesis stress model; the interaction of biological predispositions and environment is important not just in schizophrenia but for all mental diseases. Several studies looked at adopted children whose biological parents had or did not have schizophrenia. If in a home that is psychologically healthy, those children have a very low incidence of serious mental issues (5%). Children who are adopted in disturbed homes however have a 60% chance of a mental illness if they have biological predispositions, compared 30% for people who are not predisposed. Note that this type of research is done retrospectively: it's unethical to randomly assign people to disturbed vs. normal families. These data suggest that despite the biological predispositions, one might not develop a mental illness if the environment is right.

**Video clip:** treating schizophrenia. Because schizophrenia is so devastating, people have been interested in treatment. The man in the clip is schizophrenic, but he has an apartment, and has held a job for two years. After trying out different medications, he started to take one experimental drug that seems to work for him. The drug works for about 60% of patients. It has debilitating side effects: for 1% of patients, it causes damage to the bone and interferes with its ability to produce white blood cells. Nonetheless this drug has been able to provide a normal life for this man.

This provides evidence that when a treatment works, it can provide help for functioning. This particular drug works by adjusting some of the dopamine levels to counter the hallucinations. Part of the treatment for schizophrenia involves reality testing: helping schizophrenics learn to reality test and to identify what's true and what's not. It's hard because the thoughts are powerful and they are coming from inside.

### **Treatment**

There are hundreds of styles of treatment to address the variety of mental illnesses. There is a lot of variety in treatments. In early history, treatments that were applied typically had no basis in scientific evidence: for example mental illness was thought of as caused by demons in the head; treatment involved drilling holes in the head to let the demons escape. You can see how this not only can't work, but causes even more harm. In the last 50 years, researchers have been building knowledge of what treatments work, whether treatments work, and why they work; they have been honing and refining the treatments that seem to work. One type of treatment that seems to work is biological treatment (drug therapy). Drugs are usually good for addressing symptoms, but they often require one to stay on the drugs for a long time, unless one has alternative treatments to deal with issues, while on the drug to manage symptoms. This is why drug therapy is often accompanied by psychotherapy. There are different types of psychotherapies:

**Psychodynamic approach to treatment:** focus is on inner motives. The idea is that people have unconscious thoughts and feelings coming from their history that lead to problems. Treatment tends to focus on trying to identify unconscious motives and bringing them to the person's awareness. If someone can become aware, it should be effective. Knowing the source of the problem empowers someone to be able to fix the problem. Again, the main idea is that understanding the origin of the issue will be important for solving the issue.

**Humanistic approach:** it's similar to the psychodynamic approach in that mental illness is best treated by understanding its sources. The main difference is that in the humanistic approach, the inner feelings are positive and life promoting, and the

therapist's role is to bring them out by providing unconditional approval to the client. The humanistic approach is also called the client centered approach, and is associated with Karl Rogers. The goal is to resolve issues by helping the gain self acceptance and self awareness.

**Cognitive varieties of treatment:** the assumption is that thinking patterns and beliefs might be the mechanism for maintaining disorders but also changing them. The goal is to identify the problematic styles of thinking and to change them. For example, if someone tends to over generalize negative aspects of the self ("I am a bad person") this perpetuates the disorder. A Cognitive therapy would involve identifying the maladaptive thoughts, and getting the person to evaluate them to teach them to switch to a more productive thinking style ("you have this belief, what's the evidence in your life?" "Look at this, doesn't this show instead that you are a good person?").

**Behavioral treatments:** they often accompany cognitive treatment. They are very different from psycho dynamic and humanistic approaches. The focus is not at all on history or childhood. On the contrary, the focus is on the current symptoms, and how to deal with them now. The focus is on solving observable behaviors. For people who have anxiety and phobias treatment involves exposure to the things they are afraid of. These treatments use the principles of behaviorism. The goal is to teach people that they can handle their anxieties through classical conditioning and habituation. This can lead to changes in the behavioral symptoms.

In most cases, multiple forms of treatments are used for a single therapy, and most therapists describe themselves as eclectic: they try to pull out the principles that are the most helpful for a particular case from the various forms of therapy available.

**Video Clip:** a woman with arachnophobia part 1. She cleans the outside of her truck with a spider brush every day before getting in the truck. Before getting into her house, she brushes all the walls from the hallway to her house to make sure there are no spider webs. Then once inside, she scotch tapes around the door so that the spiders can't get in. What is an example of a treatment plan for her?

- Behavior therapy: exposure to the situation to get to a point where she can be comfortable with the knowledge that there might be a spider in the room, and that she doesn't need to worry about her reaction to the spider.
- Cognitive: challenging the irrational thoughts about the danger and teaching her that it's possible to tolerate anxiety. This might be done with some education to teach her for instance that there are only two species of spiders that are dangerous in the US.
- biological: give her medicine to help her deal with the immediate symptoms.

How behavioral therapy works: Behavioral treatment uses the principle of habituation (we talked about it in child development and behaviorism): after repeated exposure, you get less and less interested in something. Let's take the example of someone with a phobia of blood injury. The therapist can ask the client to generate a list of all things that generate anxiety, and the person might generate: holding a red sweater, sitting in a hospital lobby, seeing a video of a surgery, seeing someone receive a needle, etc. Then the therapist might ask the client to rate on a scale from 0 to 100 how much fear each item from the list generates. The therapist might then rank order the items. Let's say holding a red sweater is the least anxiety provoking item. The therapist would ask the client to hold a sweater, while the therapist is teaching the client how to handle and cope with the anxiety. This can be accompanied with relaxation techniques (progressive muscle relaxation, diaphragmatic breathing, and slower breathing). Once the client has learned to tolerate the anxiety of holding a red sweater, the therapist can move up the hierarchy to something more anxiety provoking and follow the same process. Note that the point is not to teach people that they should avoid their anxiety response, anxiety responses are not necessarily bad, and can be useful. The point is to teach them to tolerate and learn that anxiety responses can go down.

**Video clip:** woman with arachnophobia part 2: the woman had therapy and learned to be less afraid of spiders. After the treatment, she was able to walk through a field, whereas before she could not even look at a field. She even went camping and is able to hold a spider in her hands.

This type of therapy is very effective to eliminate phobias. Within about 4 sessions of an hour each, phobias can be completely eliminated.